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The Order of Generation and Time in the Philosophy of Saint Thomas Aquinas

The order of the world as we know it is an order of process. This is not a new discovery, but we have given the idea a much more extensive and a much more radical application than ever before. The ancients were very much aware of change and movement in the world, but never did they consider it as all-pervasive as we do. They saw motion in the heavens, but for them it was only local motion and this motion followed an unchanging pattern and the heavenly bodies themselves were considered unchanging and unchangeable, above the order of generation and corruption which was characteristic of the bodies here below. In the Aristotelian cosmology, the heavenly bodies, unchanging and regular as they were thought to be, became the principles of all natural motion here below, but they did not enter into the process themselves. Two orders of bodies were thus distinguished, one in process and the other above the process. Formerly also, the realm of nature and the realm of history were considered apart from one another. But now all this has changed. We see all bodies as belonging to one single order of nature, and this order is an order of process. Nature is not something apart from history, but it has its own history, and we tend to look upon history much in the way that we view nature, as a process that has started someplace and is going someplace. Philosophy used to be concerned with natures and now it is concerned with history. Science itself has become as much a natural history as a study of its laws, and all those who are opposed to this view of nature are definitely on the defensive.

St. Thomas was very much a man of his times, and as such he shared the ancient view of nature. In cosmology, as is well known, he went along with the Aristotelian view of the world for the most part, except for the question of duration. Aristotle had argued that the world is eternal, but St. Thomas believed that it had a beginning and an end in time. "A tota creatura corporea tolletur generationis et corruptionis status. Et hoc est quod dicit Apostolus, Rm 8 21, quod ipsa creatura liberabitur a servitute corruptionis in libertatem gloriae filiorum Dei."¹ This belief, however, was not without affecting his understanding of nature. It is our intention here to study precisely how it did. Everyone knows that St. Thomas differed from Aristotle with regard to the duration of the world, and Thomists today are very much given to emphasizing that St. Thomas's understanding of the

1. *Cont. Gent.*, IV, c.97, n.4285.

world was quite different from that of Aristotle, but very few have tried to bring out just how. This difference, it seems to us, centers about the manner of conceiving the order of generation and its place in the cosmos. To bring this out could prove very instructive for our own way of viewing nature.

Thomists today like to insist on the differences that separate St. Thomas from Aristotle, but this was not the case with St. Thomas himself. Where he differed from the Philosopher quite clearly, he said so explicitly, but for the rest he tended to find what he had to say in philosophy in the Philosopher. And even when he did take exception to Aristotle, he usually found his reasons for doing so in the Philosopher himself. This, we hope, our study will show, at least with regard to the subject at issue. St. Thomas saw no reason for rejecting the supposition that the heavenly bodies were incorruptible. He accepted it willingly enough, all the more so because, connected with this was also the supposition that they embodied the universal causes of nature. He did not think these bodies had come to be by way of a process, but that they were immediately created by God as they are now. He also tended to think that the order of the species here below had been as he knew it right from the start, or nearly so, though this was less certain in his mind and he tended to allow as much room for the action of things in constituting the universe as he could reasonably, given the way he saw things. For the most part, like Aristotle, he saw nature as in a more or less constant state, a state of flux, of generation and corruption, with different individuals succeeding one another in time to maintain a certain permanence in the species.

But all this he saw as ordered to man in a very special way, something which Aristotle did not see as clearly. While Aristotle remained with a cyclical understanding of process in nature, St. Thomas saw a direction in this process as a whole, a line going from the lowest to the highest, a line which had something to do with time. Aristotle's understanding of nature as a whole remained too abstract. St. Thomas made it more concrete and in doing so found something which was more reasonable. Let us see in what way.

I. GENERATION AND NATURE AS A WHOLE

Let us begin by examining how St. Thomas understood generation and its place in nature as a whole. In its broadest and most basic meaning, generation is essentially a process, a passage from incompleteness to completion.

Generatio nihil est aliud quam via quaedam de incompleto ad completum, oppositum scilicet ad incompletum praeexistens. Termini enim generationis sunt privatio et forma; materia autem secundum quod existit sub privatione habet rationem imperfecti; secundum autem quod

existit sub forma habet rationem perfecti et sic patet quod generatio est via sive transmutatio de imperfecto ad perfectum oppositum.¹

This covers practically every kind of natural coming to be. The example of it that recurs most frequently when St. Thomas discusses the order of generation is the generation of the perfect or full grown man. "Generatio semper procedit ab imperfecto ad perfectum, sicut vir est posterior generatione quam puer, nam ex puero fit vir, et homo posterius generatione quam sperma. Et hoc ideo quia vir et homo iam habent speciem perfectam, puer autem et sperma nondum."² The point of adding *homo* to *vir* in the example was perhaps to bring it closer to nature, lest we think that the idea of generation at issue depend rather on the growth of reason in the development from childhood to manhood, and not on a natural growth as well. The development of reason in man, though it transcends nature, is rooted in the development of nature. Generation is fundamentally a natural process, and the word 'nature' itself, in what is to us its first and most fundamental meaning, refers to the generation of living things.³

We should note particularly the insistence on order in this definition. An order between imperfect and perfect is presupposed, an order of time which is different from another order in nature. What comes after in generation, *posterior generatione*, also comes after in time, *posterior tempore*. The other order in nature is generally referred to as the order of perfection or, simply, as the order of nature. This order is somewhat of an absolute, an order of being prescinding from becoming. It starts from the perfect, from the term of becoming, and so it is the reverse of the order of generation. In this order the perfect is prior to the imperfect, as act is prior to potency.⁴

Absolutely speaking, the perfect is always prior to the imperfect, if not in the same individual, at least in the order of nature as a whole. "Omne quod fit, dum fit, est imperfectum, et tendit ad principium, idest ut assimiletur principio suae factionis, quod est primum naturaliter. Ex quo patet id quod est posterius in generatione, est prius secundum naturam."⁵ In one and the same individual which comes to be by a natural process, perfection may appear last, but this perfection is only an assimilation, in the individual, to the perfection that was already possessed by the principle of its coming to be. "Perfectum quidem est prius imperfecto, in diversis tempore et

1. *In De Causis*, lect.25, n.407.

2. *In IX Metaph.*, lect.8, n.1856.

3. Cf. *In V Metaph.*, lect. 5, n.808.

4. Concerning the priority of act over potency in general, cf. *In IX Metaph.*, lect.7-9. Here we shall use only what is necessary for understanding the order of generation in these lessons.

5. *In VIII Phys.*, lect.14, n.1094(9).

natura ; oportet enim quod perfectum sit quod alia ad perfectionem adducit ; sed in uno et eodem imperfectum est prius tempore, etsi posterius natura.”¹

All this, however, implies by no means that the order of generation is not a natural order. If we prescind from the order of efficient causality, which is what governs our naming the order of perfection the order of nature, and look only to the coming to be of an individual, it will appear that the order of generation is no less natural than generation itself. So much so that, if something appears late or at the end of a natural process of generation, it will be said to be more perfect than what came before it. “Via generationis ab imperfectioribus ad perfectiora pervenitur, et hoc ordine quod quae imperfectiora sunt, prius ordine naturae producuntur.”² Thus, according to the order of generation, the imperfect is prior to the perfect and potency is prior to act. “Si enim accipiamus hunc hominem qui est actu homo, fuit prius secundum tempus materia, quae erat potentia homo.”³

The other important thing to note about the order of generation is that it is not only temporal, but also gradual. St. Thomas recalls this most frequently in connection with man’s need for time in learning, in getting to know and understand the truth of things. “Sicut in rebus quae naturaliter generantur, paulatim ex imperfecto ad perfectum pervenitur ; sic accidit circa cognitionem veritatis.”⁴ Such a gradual process is not absolutely necessary for knowing the truth, but it is for man, since he has to pass from potency to act in the exercise of his intellect, something that makes his understanding like the things of nature. “Pertingit etiam ad intelligentiam veritatis cum quodam discursu et motu arguendo.”⁵ It takes time to learn, to acquire a discipline, just as it takes time to pass from potency to act. Even in supernatural revelation, God respects this order that is so natural to man : “In qua quidem revelatione, secundum congruentiam hominis, quidam ordo servatur, ut paulatim de imperfecto veniat ad perfectum : sicut in ceteris rebus mobilibus accidit.”⁶ The point we wish to make is in this last phrase : this is what happens in all the things of nature. “Nec perfecti actio ab imperfecto statim recipitur in principio perfecte ; sed primo quidem imperfecte postea perfecte, et sic deinde quousque ad perfectionem perveniat. Et hoc quidem manifestum est in omnibus rebus naturalibus quae per successionem temporis aliquam perfectionem consequuntur.”⁷

1. *IIIa*, q.1, a.5, ad 3.

2. *De Pot.*, q.4, a.2, ad 33.

3. *In IX Metaph.*, lect.7, n.1848.

4. *In Job*, prooem, n.1.

5. *Ia*, q.79, a.4, c.

6. *Cont. Gent.*, IV, c.1, n.3342.

7. *De Ver.*, q.14, a.10, c.

All this is fairly easy to understand when we have to do only with individuals. But when we try to apply it to nature as a whole difficulties begin to appear. If nature as a whole goes through a process of generation, passes from imperfect to perfect, what becomes of the natural priority of perfection according to the order of efficient causality? Where shall we find a thing in act to bring, not some individual or other but nature itself from potency to act? Will we have to presuppose the existence of pure potency?¹ These difficulties bring up the metaphysical question of creation. But can we speak of generation for nature as a whole without going into this realm of metaphysics? Is it possible to treat of it only from the viewpoint of nature itself?

For St. Thomas the question was not as embarrassing as it might be for us. He had more than one way of accounting for the appearance in nature of the imperfect before the perfect. One of these brought Aristotle's understanding of the heavenly bodies into play. These were a part of nature, but they were ever in act as principles of generation. When there seemed to be nothing here below to explain the generation of something, as for example maggots coming from carrion, St. Thomas fell back on the supposed influence of the heavenly bodies. Against the idea of a partial evolution in the world, in connection with the *opus sex dierum*, he brought up the objection that it did not seem possible for certain parts of the universe to appear before others, especially not the inferior, the less perfect, before the superior and more perfect. One answer to this difficulty, he said, could be that there were always the principal parts of the universe to explain such an order in generation. "Potest dici, quod in illo rerum principio fuerunt corpora caelestia et omnia elementa secundum suas formas substantiales cum Angelis simul producta, quae sunt partes principales universi; in subsequentibus autem diebus fuit in ipsa natura iam producta aliquid factum, pertinens ad perfectionem et decorum ipsarum partium iam productarum."²

But even though St. Thomas thought of the heavens as universal active principles in nature, he still spoke of the order of generation as a whole with its own active principles. His manner of doing so might help to take us out of our embarrassment, for we could extend what he says of the order of generation as a whole simply to the whole of nature, since the incorruptible heavens were not seen as intrinsic principles of the order of generation. Thus, if we left these incorruptible bodies out

1. *De Spir. Creat.*, q.un., a.1, answers this question very well in terms of what we have just been considering. "Licet enim in uno et eodem, quod quandoque est in actu quandoque in potentia, prius tempore sit potentia quam actus; actus tamen naturaliter est prior potentia. Illud quod est prius, non dependet a posteriori, sed e converso. Et ideo invenitur aliquis primus actus absque omni potentia; nunquam tamen invenitur in rerum natura potentia quae non sit perfecta per aliquem actum; et propter hoc semper in materia prima est aliqua forma."

2. *De Pot.*, q.4, a.2, ad 3.

of consideration, we could simply equvalate nature and the order of generation, something that is not unjustified if we recall the first and primordial meaning of nature for Aristotle and St. Thomas. St. Thomas himself was inclined to slip in this direction when he did not have the *De Caelo* too much in mind, as can be seen in the other answer he proposed to the difficulty we just saw against a certain process in the formation of the universe. "Non est eadem dispositio rei iam perfectae, et prout est in suo fieri; et ideo quamvis natura mundi perfecti et completi hoc exigit quod omnes partes essentielles universi sint simul, potuit tamen aliter esse in ipsa mundi inceptione; sicut in homine perfecto non potest cor esse sine aliis partibus, et tamen in formatione embrionis cor ante omnia membra generatur."¹

The important thing here is to cut the order of generation loose, as it were, from the incorruptible heavens, to see it as a whole with a certain autonomy, independently of the supposed influence of the heavens. St. Thomas did this, at least in part, in answering an objection against *Genesis* for placing the appearance of animals that walked the earth after that of fishes and birds. Arguing from the order of nature understood as the order of perfection, the objection claimed that the latter animals, since they were on the whole more perfect and closer to man, should have appeared first. After giving an answer based in part on the *De Caelo*, St. Thomas goes on to add the following reflection on the order of generation as an order of nature.

Posset etiam dici, quod via generationis ab imperfectioribus ad perfectiora pervenitur, et hoc ordine quod quae imperfectiora sunt, prius ordine naturae producuntur. In via enim generationis quanto aliquid perfectius est, et magis assimilatur agenti, tanto tempore posterius est; quamvis sit prius natura et dignitate. Et ideo, quia homo perfectissimum animalium est, ultimo inter animalia fieri debuit, et non immediate post corpora caelestia, quae cum corporibus inferioribus non ordinantur secundum viam generationis, cum non communicent in materia cum ipsis, sed habeant materiam alterius rationis.²

We shall see more of man's foremost role in the order of generation later on. But for the moment let us see how the inferior bodies constitute an order in which the incorruptible bodies have no place.

II. COMMUNITY IN MATTER AND ORDER

In the *De Caelo*, in order to bring out the unicity of the universe, Aristotle introduces the idea of a body constituted from the whole of its matter — *ex tota sua materia*.³ The same idea could be helpful

1. *De Pot.*, q.4, a.2, ad 3.

2. *Ibid.*, ad 33.

3. Cf. *In I De Caelo*, lect.19.

here to understand the order of generation as a whole, or more exactly, the order of all things subject to generation and corruption. What allows us to say this is a certain community, a community of matter, in which all things corruptible have a part. The heavenly bodies as Aristotle and St. Thomas conceived them had no part in this community, though they were truly material. Their matter, which was truly the subject of their form or actuality, was of a different kind, *alterius rationis*, as the text just quoted puts it, from the matter of things here below. It had no privation, as do the things subject to corruption. "Non tamen oportet quod istud subiectum vel materia habeat privationem : quia privatio nihil aliud est quam absentia formae quae est nata inesse, huic autem materiae vel subjecto non est nata inesse alia forma, sed forma sua replet totam potentialitatem materiae, cum sit quaedam totalis et universalis perfectio."¹

The reason for thinking of heavenly form and matter in this way, St. Thomas goes on to point out, is that their active power, which emanates from their form, is universal and not particular like the power of the inferior bodies. The form of the latter is particular and as such it cannot exhaust the potentiality of its matter ; "quorum formae, tanquam particulares existentes, non possunt replere totam potentialitatem materiae ; unde simul cum una forma remanet in materia privatio formae alterius, quae est apta nata inesse."²

Hylomorphism is often presented nowadays in rather static fashion, but we see here that, understood in the way of Aristotle and St. Thomas, that is, along with its essentially correlative privation, it is quite dynamic. No one believes in the incorruptibility of the heavenly bodies any longer, but many still explain Aristotelian form and matter without any reference to privation, in a way that would apply only to the heavenly bodies in the ancient perspective of Aristotle and St. Thomas. That certainly was not the first, nor the most primordial, nor the most perennial meaning of these notions. We shall not understand the community in matter of all things subject to generation and corruption unless we first understand that the principles of change or generation are three, not just matter and form, but privation also.³ It is the three taken together that make it possible for us to conceive an order of generation as a whole, as St. Thomas did, through the notion of mutual transformation or transmutation.

1. *In I De Caelo*, lect.6, n.63(6).

2. *Ibid.*

3. How this fundamental position is to be understood will be found in Book I of the *Physics*. The importance of this Book for understanding truly Aristotelian hylomorphism cannot be over-emphasized. It is too often neglected or studied only for its historical value as a discussion of Aristotle's predecessors. The doctrine given there governs a good deal of Aristotelian thinking. St. Thomas's own commentary highlights the idea of three principles for generation.

Leaving aside the ancient idea of the constitution of heavenly bodies, since it does not enter into what we mean by transmutation here, "non est subiecta (eorum materia) transmutationi quae est secundum esse,"¹ let us see what this community in matter consists in for St. Thomas.

Unumquodque elementorum est in alio in potentia ; et quae sic se habent, adinvicem generari possunt. . . . quia communicant in una materia prima, quae eis subiicitur, et in quam sicut in ultimum resolvuntur : omnia enim quorum materia est una communis, sic se habent quod unum eorum est in potentia in alio ; sicut cultellus est in potentia in clavi, et clavis in cultello, quia utriusque materia communis est ferrum.²

Let the homey example serve as a warning against too facile, and oftentimes false, an identification of prime matter with such things as the particles of modern physics. The transformation of a key into a knife, or of a knife into a key, may not be substantial changes, but the analogy serves to illustrate the idea of matter as substratum of change, which is what interests us here. For St. Thomas the mutual generation of the elements from one another was a substantial change. Just what would be a substantial change in terms of modern physics is a problem we do not have to go into here. There are many other changes in nature that St. Thomas considered substantial and many of them, such as the coming to be or the ceasing to be of an animal, can still be considered as such. The point is that in any substantial change the ultimate substratum is prime matter, something that is commonly found in all physical substances, not as common matter, to be sure, but as this matter informed by this form. While this matter is informed by this form, however, it remains in potency to other forms. The key can become a knife and the knife can become a key because, while it has one form, the iron of the knife remains in potency to another shape. This potency is the iron inasmuch as it can have diverse shapes or external forms, and the negation of the shape of a knife in the iron of the knife is called a privation. Now, the iron of the knife can also be converted into non-iron, and this potency in the iron is called its prime matter ; and that which makes the iron to be iron, and not some other metal or substance, for example, is its substantial form, and the negation of this form is the privation of this same form. Now, inasmuch as iron can become non-iron, its matter is an order to some other basic form. And that order is an order of nature in the first meaning of the term, for the form of which matter is so "deprived" is one which it is naturally able to have : "simul cum una forma remanet in materia privatio formae alterius, quae est nata inesse."

1. *In I De Caelo*, lect.6, n.63(6).

2. *In I Meteor.*, lect.3, n.16(2).

This cannot be understood independently of finality in nature, but it is important to see that order truly begins in matter, a "first" principle of nature as well as the final end, though subordinate to the latter. St. Thomas makes this quite clear. "Cum vero, ut dictum est, quaelibet res mota, in quantum movetur, tendat in divinam similitudinem ut sit in se perfecta : perfectum autem sit unumquodque in quantum fit actu : oportet quod intentio cuiuslibet in potentia existentis sit ut per motum tendat in actum."¹ Prime matter does not exist as such, and pure possibility is not a principle of order. But this is not what we are talking about. We are talking of things actually in a process of changing, of the matter which actually exists and of the real possibilities that are present, according to an order, in this matter.

The idea of the four elements constituting together a certain totality surely had a great deal to do with St. Thomas's conceiving the order of generation as a whole, but what did so more than that was an order of perfection which he saw among the various kinds of physical objects, an order which went from the elements to inanimate compounds, to plants, animals, and to man. He was such more emphatic in affirming the order of generation as a whole than Aristotle, and we shall see why when we see how he departed from Aristotle with regard to the perpetuity of this order, but let note how he found the notion already in the Philosopher.

We see the notion in Book VIII of the *Physics* where Aristotle is trying to prove that local motion is the most perfect kind of change, with an argument taken from the order of generation. This, he says, is seen not only in one and the same individual, but also in the whole progress of things generable in nature. "In processu generationis in omnibus generabilibus ultimo invenitur loci mutatio, non solum in eodem, sed etiam considerando totum progressum naturae generabilium ; inter quae quaedam viventia sunt penitus immobilia secundum locum . . . sed perfectis animalibus inest motus localis."² We are not far from a notion of evolution in nature as a whole here. We can see also that the consideration of the *totus progressus naturae generabilium* given here must have influenced the answer we saw given above to the objection that, according to the order of nature, the walking things of earth should have appeared before fowl and fish.³

Yet it is remarkable to note how little attention this idea of a process in nature as a whole was given by Aristotle, even when he was considering cosmic motion as a whole. We see it introduced here as the supposition in an argument to prove something else, but never did it receive any prominence in Aristotle, nor do we find

1. *Cont. Gent.*, III, c.22, n.2030.

2. *In VIII Phys.*, lect.14, n.1904(9).

3. Cf. *supra*, p.50.

it in the discussions on the duration of the heavenly motions. Aristotle seems to have been so absorbed with the circularity of his cosmic order that he did not give sufficient attention to the aspect of time implied in the argument which he used to prove the superiority of local motion in the very Book where he argues for the eternity of the heavenly motions. St. Thomas, however, who had a different understanding of time, one that was not cyclical but included a beginning and an end,¹ did not fail to see the significance of the idea and it became a very important part of his outlook for the universe as a whole, as we see most clearly in Chapter 22 of *Contra Gentiles* III. Nor did he fail to see the implications of this idea, as we shall see, in connection with the supposed eternal motion of the heavens.

In the *De Generatione* Aristotle had been faced with the question of how generation could go on forever. From the *Physics* and the *De Caelo* it was supposed that the world and the heavenly motions were eternal. The latter were thought to be causes of generation here below and so the order of generation also had to be eternal. "Oportet enim ponenti mundum et motum perpetuum, ponere etiam generationem perpetuam."² But this position was not without a certain difficulty for Aristotle, for if the process was supposed to have gone on from all eternity, then corruption, the correlative of generation, would also have to be from all eternity. And if this passing away into nothing were from all eternity, how could there be anything left of a world that was also supposed to be finite? Why was not the world sensibly smaller as time went on? Why did its state appear to be more or less steady?

Aristotle's answer to the difficulty is well known. He distinguished corruption from pure and simple annihilation. Just as the generation of one thing always entails the corruption of another, so also the corruption of one thing entails the generation of another. And so the process can go on indefinitely; as St. Thomas explains: "Ideo necesse est esse transmutationem generationis et corruptionis indeficientem vel inquietam, idest non cessantem, quia corruptio huius est generatio alterius, et e converso."³ There is no need to make creation intervene here to account for the steady state of the cosmos. Corruption is not passing away simply to nothing, but to the non-being only of the thing being corrupted. This being is passing away into being in matter only in potency, while the matter itself becomes subject to another form, the form which makes it to be in act what it is. Even under this new form, however, matter is also said to be subject to privation, privation of the form it had previously, or of other forms, just as it could be said to be deprived

1. Cf. *In VIII Phys.*, lect.2; *In V Metaph.*, lect.13.

2. *In De Gen.*, lect.7, n.52(1).

3. *Ibid.*, n.57(6).

of the form it now has when it was subject to the form it formerly had. Thus, what passes from being is not simply cut off from the totality of nature, for, while what passes away ceases to be, something else comes to be at the same time. Though matter cannot actually be without form, still, even considered in itself, it is not purely negative, but something positive existing as substratum for the community of things generable and corruptible.

Unde non potest materia remanere quin sit subiecta alicui formae : et inde est quod uno corrupto aliud generatur, et uno generato aliud corrumpitur : et sic consideratur quidam circulus in generatione et corruptione, ratione cuius habet aptitudinem ad perpetuitatem.¹

The community of matter alone is not enough to justify positing the process of generation and corruption as unending or eternal in fact. It only establishes an aptitude for such perpetuity. But with the perpetuity of the heavenly motions also affirmed, the supposed active universal principle of all changes in nature in the Aristotelian cosmological system, we are brought to an affirmation of actual perpetuity in the process of generation and corruption, and not a merely possible one, something which is not in accordance with the Faith — “quod tamen fides catholica non supponit.”²

In taking exception to the Philosopher on this score, however, St. Thomas does not simply reject the entire system. He did not think the eternity of the world was necessarily implied in the system, and now we shall see him adopt the system both to explain things in the present state of the world, where the cycle of generation and corruption is still going on, and to infer the cosmic shape of things to come in its final state. With the understanding that the process is not in fact eternal, St. Thomas could agree on the general end of nature in generation, the permanence of things subject to corruption as a whole. “Propter hoc enim est generatio et corruptio mutua in istis inferioribus, ut conservetur perpetuum esse in eis.”³ The form of a thing is the end of its particular process of generation, but that is not the end of natural generation as a universal process ; that is only a particular effect. “Finis naturae in generatione non est reducere materiam de potentia in actum, sed aliquid quod ad hoc consequitur, scilicet perpetuitas rerum, per quam ad divinam similitudinem accedunt.”⁴ Things here below are far removed from the incorruptible First Principle and so they are corruptible. Each one of them comes to be and ceases to be, and this imperfection in being is also an imperfection in assimilation to God. Nature overcomes

1. *In De Gen.*, lect.7, n.57(6).

2. *Ibid.*

3. *In II Phys.*, lect.12, n.254(5).

4. *Cont. Gent.*, IV, c.97, n.4287b.

this imperfection, in part at least, by the process of generation. Individuals come and go, but their species of being go on, realized ever anew in a succession of individuals in time.

The permanence of the process assures the permanence of the corruptible species as long as the process goes on. But when the process comes to a halt, most of these corruptible species will simply disappear from the world.¹ Those that will remain, those that somehow rise above corruption, will do so by reason of their connection with the essential perfection of the universe,² for the universe itself is simply for ever.³ The latter will include not only man, by reason of his rational soul and the very special place he holds in the universe, but also the four elements, because taken together, as a totality, they are perpetual, though not as parts interacting with one another : "secundum totum, licet non secundum partem, quia secundum partem corruptibilia sunt."⁴

The *per se* order of nature is found in the different species. Individuals of the different species participate in this order only indirectly, *per accidens*, but in a true fashion ; as members of one species or another they enter into the *per se* order of nature. Furthermore, the permanence of the *per se* order, at least as far as the corruptible species are concerned, depends on the succession in time of individuals of the various species. Such is the order of things subject to generation and corruption. Nature is said to contain all this, because it is principle of this twofold order.

Natura continet generationem idest res generatas, tamquam principium generationis existens : particularis quidem Natura generationis particularis ; universalis autem Natura, quae est in Corpore caelesti, comprehendit universaliter omnem generationem, sicut suum effectum.⁵

III. THE PRINCIPLES OF ORDER IN NATURE

There is an order in things generated because there is an order of causes, principles of this order. The principles are found both in particular things and in nature as a whole. Those in particular things are subordinate to those in nature as a whole. As we know, St. Thomas, following Aristotle's *De Caelo*, pictured this subordination in terms of the inferior bodies being influenced by the superior bodies. "Sicut caelum est universale activum eorum quae generantur, ita

1. Such will be the case for animals, plants and mineral compounds. Cf. *De Pot.*, q.5, a.9, c. ; *Comp. Theol.*, c.170, nn.335-336 ; *Cont. Gent.*, IV, c.97, n.4289.

2. Cf. *De Pot.*, q.5, a.7 and 10 ; *Comp. Theol.*, c.170, nn.335-336.

3. Cf. *De Pot.*, q.5, a.4 ; *Ia*, q.104, a.4.

4. *Cont. Gent.*, IV, c.97, n.4288b.

5. *In De Causis*, lect.9, n.221.

elementa sunt eorumdem universalis materia."¹ "Ad corpora animata, terra et alia elementa habent habitudinem materiae, corpus autem caeleste habitudinem agentis."²

We must note carefully here how the idea of matter is used. We do not have to do with prime matter now. Though they were as matter in relation to the activity of the heavens, the elements and the other particular things of nature here below were not without their own form and their own particular principles of activity. St. Thomas insisted on this repeatedly when arguing against the Arab position on the unicity of the agent intellect, common to all men.

Sicut et in aliis rebus naturalibus perfectis, praeter universales causas agentes, sunt propriae virtutes inditae singulis rebus perfectis, ab universalibus agentibus derivatae; non enim solus sol generat hominem, sed est in homine virtus generativa hominis; et similiter in aliis animalibus perfectis. Nihil autem est perfectius in inferioribus rebus anima humana. Unde oportet dicere quod in ipsa sit aliqua virtus derivata a superiori intellectu, per quam possit phantasmata illustrare.³

Thus each particular thing of nature has within itself the principle of its activity. This is true not only of the higher animals, but also of the elements, as St. Thomas conceived them, with the understanding of course that the activity of the elements was far inferior to that of animals, and that the elements entered into the composition of the animals.⁴

When St. Thomas uses the term matter as he does in the texts we saw a moment ago, he is thinking generally in terms of order, and more precisely, of subordination. One individual generates another. This generates that, and that depends *per se* on this. But this is far from being the whole of the order of nature. The intention of the particular agent in generation is restricted to its species, but the universal intention in nature concerns the whole of corporal substances. Universal

1. *De Pot.*, q.5, a.7, c.

2. *In II De Caelo*, lect.18, n.471(14).

3. *Ia*, q.79, a.4, c. Cf. also *De Spir. Creat.*, q.un., a.10, c.; *Q.D. De Anima*, q.un., a.5, c. Note that St. Thomas's argument is not only from analogy with the things of nature, but also from the order of perfection in the universe. Man, who is the most perfect being in nature, should have at least as much as lower animals by way of proper principles in the activity that is most essential to him as a rational animal. According to St. Thomas, many errors on the nature of man stem from an error in situating him in the order of being. Materialism lowers him. Angelism tries to raise him above what he is and ends up doing the same as materialism. Cf. *Cont. Gent.*, II, c.3, n.868; IV, c.54, n.3924.

4. With regard to gravity and levity, the two basic motions proper to the elements and found in all bodies here below, a further distinction is to be made. This natural motion flows from the form of each being, but the form must still be viewed as belonging only to the passive principle of activity in nature, while the active principle is the being which brings the thing moved into being and moves it. Cf. *In II Phys.*, lect.1, n.144(4).

causes must come into play not only to explain the origin of species as such, whether it be in this, that, or the other individual, but also for ordering, preserving, multiplying, and augmenting things generable and corruptible as a whole : "universalis natura comprehendit universaliter omnem generationem, sicut suum effectum."¹

Sicut igitur agentis particularis in istis inferioribus intentio contrahitur ad bonum huius speciei vel illius, ita intentio corporis caelestis fertur ad bonum commune substantiae corporalis, quae per generationem conservatur et multiplicatur et augetur.²

Thinking in terms of the Aristotelian framework, an ancient commentator, Alexander, had suggested that, since the elements were supposed to have within themselves their own principles of activity, they might be able to interact among themselves without the influence of the heavens. Harmless as the position might have seemed, or even commendable as it might have been for insisting on the things of nature here below having their own proper principles of activity, St. Thomas refused to accept it for a reason that involved the order of nature as a whole. "Melius est dicere quod, cessante motu caeli, omnis motus corporum inferiorum cessaret, ut Simplicius dicit : quia virtutes inferiorum corporum sunt sicut materiales et instrumentales respectu caelestium virtutum, ita quod non movent nisi notae."³

The association of the idea of matter with instrumentality in this text brings us to what is in the back of St. Thomas's mind when he speaks of things here below as matter with respect to the agency of the heavenly bodies. He is not denying the causation of the inferior bodies, but he is thinking of their subordination to the more universal causes. *De Pot.* q.5, a. 8 shows that 'acting' and 'undergoing', *actio et passio*, among the elements, will cease in the final state of the universe when the heavenly motions come to a halt, though the elements themselves will continue to subsist. The reason given is quite simple. Real as the causation may be among subordinate causes, it simply ceases to be when the superior cause withdraws its causation. "Quando causa prima retrahit actionem suam a causato, oportet etiam quod causa secunda retrahat actionem suam ab eodem, eo quod causa secunda habet hoc ipsum quod agit, per actionem causae primae, in cuius virtute agit."

For St. Thomas, however, the order of nature which he adopted from Aristotle was not without certain other complications. He did not think the heavenly bodies were animated, as Aristotle did, and yet, though for him a soul was more perfect than the form of any non-living thing, he had to say that the form of a heavenly body was

1. *In De Causis*, lect.9, n.221.

2. *Cont. Gent.*, III, c.22, n.2029.

3. *In II De Caelo*, lect.4, n.342(13).

somehow more perfect than the soul of an animal here below, since the animal was corruptible and the heavenly body supposedly was not. He solved this difficulty by explaining that, though the form of a heavenly body was not more noble than the soul of an animal *simpliciter*, it was so *quantum ad rationem formae*, since the form of a heavenly body exhausted all the potentiality of its proper matter, whereas the soul did not, whence the corruptibility of the animal. Also, he added, the mover of the heavens was more noble.¹

But as St. Thomas moved to take exception to the Philosopher concerning the end of the heavenly motions he had to proceed more carefully. He wanted to maintain that the end intended in these motions was the generation of human beings. According to him, the position of the philosophers had been simply that the end was assimilation to God through causation, *similitudo ad Deum in causando*. One of the things to be avoided in discussing the end of the heavenly motions was to place that end in something lower than the heavenly bodies themselves: "ut non ponatur motus caeli esse propter aliquid vilius; nam cum finis sit unde ratio sumitur, oportet finem praeeminere his quae sunt ad finem. Potest autem contingere quod vilior sit terminus operationis rei nobilioris, non autem ut sit finis intentionis."² The position of the philosophers just mentioned easily avoided this pitfall: the term of the operation was indeed the generation of things here below, but the end was assimilation to God in the heavenly body itself. This position is not as pat as it sounds at first, as St. Thomas will point out, but let us examine how he gets around the difficulty inherent in his position without denying the supposed superiority of heavenly bodies.

Quite simply it comes down to recognizing that, after all, a rational soul is more noble than any body, including celestial bodies. "Anima namque rationalis quolibet corpore nobilior est, et ipso caelo."³ If it was true that any soul might be more noble in itself than the form of a heavenly body, this certainly was true of a rational soul. Hence there was no inconvenience in saying that the end of the heavenly motions was the multiplication of rational souls — *multiplicatio rationalium animarum*.

The apparent inconvenience stemmed from the fact that anything produced by generation seemed to belong somewhere in between the elements and the heavenly bodies, above the former but below the latter. "Agens autem nobilior est facto, sed factum nobilior est materia: unde etsi caelum habet nobiliorem formam quam corpora

1. *Ia*, q.70, a.3, ad 2. The mover of the heavenly bodies, it will be remembered, is an intelligence; for the inferior bodies it is other bodies here below and the heavenly bodies, all acting as instruments of the intelligence that rules nature as a whole.

2. *De Pot.*, q.5, a.5, c.

3. *Ibid.*

animata, elementa tamen habent formam minus nobilem.”¹ But whether or not other animals fell simply into this in-between category of perfection, man certainly did not, because he was not as to all that he is the product of a process of generation. His soul is spiritual and it transcends the order of generation. It can be produced only by creation. It is immediately created by God to inform its body, and it is by reason of the body that the whole is said to be produced by generation. The motion of the heavens was thus ultimately ordained to producing the conditions of such a multiple creation, the generation of many individuals of the human species. To prove his point St. Thomas had to argue from the natural dynamism in the order of generation.

Finis motus caelestis non est reduci de potentia in actum, sed aliquid consequens ad hanc reductionem, scilicet assimilari Deo in causando. Omnia autem generabilia et corruptibilia, quae causantur per motum ad hominem ordinantur quodammodo sicut in finem.²

Such a procedure as this was necessary, since the nature of the heavens was considered above human ken in itself. But it was also quite legitimate within its systematic frame-work, since generation was considered to be the effect of heavenly motion.

IV. THE ORDER OF THE MATERIAL CAUSE

Thus, complications in the Aristotelian theory of the heavens send us back to the order of generation to discover what nature as a whole is oriented to. Here what we have to guide us is not the order of the agent cause, according to which what is more perfect is prior in nature, since what is imperfect is not brought to perfection except by some pre-existing perfect being, but the order of the material cause, according to which what is imperfect is prior and proceeds from imperfect to perfect.³ But this is the order with which we are more familiar in any case. In this order what comes last is what is more and hence that to which everything tends.

Quanto igitur aliquis actus est posterior et magis perfectus, tanto principalius in ipsum appetitus materiae fertur. Unde oportet quod in

1. *In II De Caelo*, lect.18, n.471(14).

2. *Cont. Gent.*, IV, c.97, n.4287b.

3. “Ad generationem naturalem duae causae praeexiguntur, scilicet agens et materia. Secundum ergo ordinem causae agentis, naturaliter prius est quod est perfectius, et sic natura a perfectis sumit exordium, quia imperfecta non ducuntur ad perfectionem nisi per aliqua perfecta praeexistentia. Secundum vero ordinem causae materialis, prius est quod est imperfectius, et secundum hoc natura procedit ab imperfecto ad perfectum” (*Ila Ilae*, q.1, a.7, ad 3). About the exigency for an exterior agent, cf. also *In IX Metaph.*, lect.7, n.1848.

ultimum et perfectissimum actum quem materia consequi potest, tendat appetitus materiae quo appetit formam, sicut in ultimum finem generationis.¹

Matter is in potency to many forms, but it is not in potency to all forms indiscriminately. There is an order that this potency must follow. Anaxagoras had maintained that anything could come from anything, but, according to the natural order of generation, this could not be.

Quamvis autem generatio fiat ex non ente quod est in potentia, non tamen fit quodlibet ex quocumque ; sed diversa fiunt ex diversis materiis. Unumquodque enim generabilium habet materiam determinatam ex qua fit, quia formam oportet esse proportionatam materiae. Licet enim materia prima sit in potentia ad omnes formas, tamen quodam ordine suscipit eas. Per prius enim est in potentia ad formas elementares, et eis mediantibus secundum diversas proportionationes commixtionum est in potentia ad diversas formas : unde non potest ex quolibet immediate fieri quodlibet, nisi forte per resolutionem in primam materiam.²

There has to be a certain proportion between the form and the matter of any particular thing. That is why everything in nature has its proper form and its proper matter. Though it is always possible, in the abstract, to resolve a material being into prime matter, the real order does not allow leaps from the highest to the lowest without mediation and continuity. The highest form that is to be found in matter is that of man. "Post hanc formam non invenitur in generabilibus et corruptibilibus posterior forma et dignior."³ The lowest form according to St. Thomas, was that of the elements. Matter itself cannot be in act except through a form. Though all things subject to generation and corruption communicate in the same matter, there is an order in this communication determined by the forms that dispose matter progressively and gradually from the less perfect to the more perfect.

In actibus autem formarum gradus quidam inveniuntur. Nam materia prima est in potentia primo ad formam elementi. Sub forma vero elementi existens est in potentia ad formam mixti : propter quod elementa sunt materia mixti. Sub forma autem mixti considerata, est in potentia ad animam vegetabilem : nam talis corporis anima actus est. Itemque anima vegetabilis est potentia ad sensitivam ; sensitiva vero ad intellectivam.⁴

The very process of generation for each man is an instance of this, recapitulating, as it were, the whole order of generation. First comes

1. *Cont. Gent.*, III, c.22, n.2030a.

2. *In XII Metaph.*, lect. 2, n.2438.

3. *Cont. Gent.*, III, c.22, n.2030c.

4. *Ibid.*, n.2030b.

the fetus which lives like a plant ; then comes a more properly animal life ; and finally the life proper to man, rational activity. St. Thomas is not given to minute analyses in this regard. He is usually satisfied with sketching the broad lines of what he intends.

This might seem regrettable to some, and to bring out some of the details St. Thomas might have had in mind we could go to the *De Anima*¹ or to the *Historia Animalium*, but this would take us too far afield and it does not directly concern that which is most significant in what St. Thomas had to say. We are interested mainly in how he conceived the order of generation as a whole, and though we cannot simply abstract from all details, since they make manifest the essential continuity between the various degrees within this order, still we must be satisfied with seeing them globally here, as St. Thomas did, and hence, inevitably for us, in a confused way.

From the angle of the less perfect, what appears is an ordination to the more perfect. "Imperfecta in natura ordinantur ad perfecta sicut ad finem."² In this perspective the soul plays the role of final cause, not only in the generation of a living thing properly, but also in the process of generation as a whole, "etiam omnium naturalium corporum in istis inferioribus."³ From the angle of the soul, on the other hand, and a fortiori from the angle of reason, there appears an ordination of instrumentality, the more perfect using the less perfect.

Videmus enim quod omnia naturalia corpora sunt quasi instrumenta animae, non solum in animalibus, sed etiam in plantis. Videmus enim quod homines utuntur ad sui utilitatem animalibus, et rebus inanimatis : animalia vero plantis et rebus inanimatis ; plantae autem inanimatis, in quantum scilicet alimentum et iuvamentum ab eis accipiunt.⁴

For Aristotle and St. Thomas this being-used was not purely coincidental to less perfect things in the order of nature, though the manner in which they were *de facto* used could be. It was something that came from the natural order itself, and the place which these things held in that order. "Secundum autem, quod agitur unumquodque in rerum natura, ita natum est agi."⁵ It is in the nature of the less perfect things of nature to serve, to be used by the more perfect.

On the other side, however, we should also note that it is in the nature of the more perfect in nature to depend on the less perfect. This is a consequence of being material, of being a part of nature, and it holds true at every degree in nature. The plant cannot be without

1. Cf. *In III de Anima*, lect.17-18.

2. *De Pot.*, q.5, a.9, c.

3. *In II de Anima*, lect.6, n.322.

4. *Ibid.*

5. *Ibid.*

the inanimate, nor the animal without the plant ; and for the animals, the higher senses cannot be without the sense of touch, which is the lowest and most fundamental, nor the ability to move about without the senses. Finally, human reason and intelligence, which transcends natural being in a certain way but which is still in nature, inasmuch as it is the soul of a body, cannot do without all that goes before in nature.

Sed in mortalibus¹ habentibus intellectum, necesse est omnia alia praeexistere, sicut quaedam instrumenta, et praeparatoria ad intellectum, qui est ultima perfectio intenta in operatione naturae.²

Thus, everything below man, not only is for man, to be used by man, but also a preparation for his exercise of intelligence — *praeparatoria ad intellectum*. It comes first in the order of the material cause, but it is *for, in view of*, what comes after. It is less perfect, and hence ordered to the more perfect. Such is the order of generation.

All this must be understood not only within one and the same individual but also in terms of the different species within nature as a whole. We saw earlier that in the process of generation nature intends the permanence of corruptible species. Each individual of a corruptible species is thus ordered to the species as a whole. This might be construed as an objection to what we have just been saying about the less perfect in nature being ordered to the more perfect, for if an individual of a lower species is ordered to the preservation of the species itself, how can it be ordered to a higher species as well? St. Thomas answers the difficulty by appealing to his doctrine on the two modes of order in nature.

Similiter etiam praedictis non obviat quod individua sunt propter species. Per hoc enim quod ad suas species ordinantur, ordinem habent ulterius ad intellectualem naturam. Non enim aliquod corruptibilem ordinatur ad hominem propter unum individuum hominis tantum, sed propter totam humanam speciem. Toti autem humanae speciei non posset aliquod corruptibilem deservire nisi secundum suam speciem totam. Ordo igitur quo corruptibilia ordinantur ad hominem, requirit quod individua ordinentur ad speciem.³

Thus, not only is there no opposition between the order of an individual to its species and the order to the more perfect in nature, but the

1. Mentioning mortals specifically here is noteworthy for two reasons. First, for Aristotle the heavenly bodies were animated by intelligences. Hence it was necessary for him to specify man as mortal to distinguish him from the immortal, as well as incorruptible, heavens. Secondly, this specifying of man by mortality places him clearly in the order of things subject to generation and corruption, as opposed to the heavenly bodies which were supposed to be above that order of bodies.

2. *In II de Anima*, lect.6, n.301.

3. *Cont. Gent.*, III, c.112, n.2864.

latter even calls for the former. Individuals of a lower species are ordered to a higher species by being ordered to their own species, for it is the whole of the lower species that is *per se* ordered to the whole of the higher species. No particular individual of a lower nature, for example, is ordered by nature to an individual man directly, but everything in nature ultimately is ordered to man and this order requires that each individual be ordered to its species.

V. MAN, THE END OF NATURAL PROCESS

It appears, then, from all this, that for St. Thomas the final intention in the natural order is the generation of man. Natural causes alone cannot produce a man, to be sure, since his rational soul transcends the whole of nature, yet nature truly produces man inasmuch as it produces one of his essential components. "Animae vero rationales quamvis non fiant a causis naturalibus; tamen corpora, quibus divinitus infunduntur sicut sibi connaturalibus, per operationem naturae fiunt."¹ And even though nature itself cannot properly produce the whole of what man is, still, since it is man that is highest in nature, it intends him precisely inasmuch as he is what is more perfect. "Naturae enim intentio non sistit in generatione animalis, sed intendit generare hominem."² The proof of it is in the entire order of generation. It could be summed up in the principle, "natura intendit perfectum."³

Aristotle himself would have agreed with all of this and probably would have seen no reason in it for changing his opinion concerning the end of the heavenly motions. Because St. Thomas did not think the heavenly bodies were animated, it was easy for him to think of man as more noble than the heavens and hence as the end intended in the heavenly motions. But Aristotle thought of the heavenly bodies as somehow animated, and indeed by an intelligence superior to man; this made it practically impossible for him to consider seriously an idea such as that of St. Thomas, supposing that such an idea even occurred to him. For St. Thomas the intelligence that moved the heavenly body was superior to man, but it was a separated intelligence and did not enter into the constitution of the heavenly body as its soul. There was implicit in his position a clearer value, a greater nobility attached to the human person than in that of the Philosopher.⁴ Thus St. Thomas tended to make the

1. *De Pot.*, q.3, a.10, ad 2.

2. *Ia*, q.85, a.3, ad 1.

3. *De Pot.*, q.5, a.9, c.

4. When St. Thomas made the remark that it made little difference whether the intelligence that moves the heavenly bodies be separated or not (cf. *De Pot.*, q.5, a.5, c. : "activum autem principium motus est aliqua substantia separata, ut Deus vel intelligentia

ancient cosmos strain at the seams by placing man clearly at its summit and somehow above it.

For determining the end of the heavenly motions, according to St. Thomas, three things had to be kept in mind. First of all, the end had to be something attainable through motion, secondly, something other than the motion itself, and thirdly, something more noble than the means to the end. These conditions could be satisfied in two ways.

Uno modo ut ponatur finis motus caeli aliquid in ipso caelo, quod simul cum motu existit ; et secundum hoc a quibusdam philosophis ponitur, quod similitudo ad Deum in causando est finis motus caeli ; quod quidem fit ipso motu durante ; unde secundum hoc non convenit quod motus caeli deficiat, quia deficiente motu, finis ex motu proveniens cessaret.¹

Though the end here was something to be found in the heavenly body itself, namely, the assimilation to God through causing, it was something more noble than the motion which was the means of its causing. St. Thomas explains this through an analogy with the end in a particular process of generation. The individual generating intends the form of the being generated, although the form of the being generated is not more noble than that of the individual generating, but belongs to the same species. The fact is, however, that the individual generating does not intend the form of the being as final end ; its final end is something more.

Intendit enim generans formam generati, quae est generationis finis, non quasi ultimum finem : sed similitudinem esse divini in perpetuatione speciei, et in diffusionem bonitatis suae, per hoc quod aliis formam speciei suae tradit, et aliorum sit causa.²

What is said here will not be denied, but will be seen in the light of another position, one that will make it more meaningful.

vel anima, ut quidam ponunt ; quantum ad praesentem quaestionem nihil differt), he was thinking only of the relation between the heavenly bodies and their intelligent movers, and not of the aspect of the question we are looking at here . . . On another occasion, after making a similar remark, he noted that conjunction of the intelligence with the heavenly body could make a difference with regard to the latter's dignity. "Nec multum refert quantum ad hunc modum movendi, utrum moveatur a substantia spirituali coniuncta quae dicatur anima eius, vel tantum a substantia spirituali separata : nisi quod ponere ipsum moveri a substantia spirituali coniuncta, pertinet ad maiorem dignitatem ipsius caeli ; quod attendentes Plato et Aristoteles, posuerunt caelum animatum" (*In II de Caelo*, lect.3, n.315(3)). By not attributing a soul to the heavenly bodies St. Thomas was thus lowering the heavenly bodies from the high place that Plato and Aristotle had given them and subordinating them simply to man ; and at the same time he was enhancing man's position at the summit of the natural order.

1. *De Pot.*, q.5, a.5, c.

2. *Cont. Gent.*, III, c.22, n.2028b.

The other way of satisfying the three conditions defined above was one proposed by St. Thomas as his own : "Alio modo potest poni finis motus caeli aliquid extra caelum, ad quod pervenitur per motum caeli ; quo cessante illud potest remanere."¹ For St. Thomas the purpose of the heavenly motions, as of the whole natural order, was to bring to completion the number of the elect. This was an end that could remain after the motion itself ceased. It satisfied the necessary conditions for an end of the whole process of nature, for it was something more noble, other than motion or process, and attainable by motion. In fact, on this last count it seems to improve on the position of the philosophers, since a certain number of men is something much more determinate as an end, something which can be more properly attained through motion, than simply assimilation to God in causing.

Furthermore it does not leave the end unrelated to the motion as the first position seems to, but rather relates it to the motion in such a way that the end is truly reached through the motion. "Sunt autem aliorum causae per hoc quod causant generationem et corruptionem quae est in istis inferioribus. Motus igitur corporum caelestium, in quantum movent, ordinantur ad generationem et corruptionem quae est in istis inferioribus."² In the first position, such statements as this last one would have had to be qualified by dissociating the end from the term of the *motus caeli*, generation and corruption *in istis inferioribus*, lest we seem to be subordinating the superior to the inferior. But for St. Thomas's position this was not necessary, since man, the rational animal, was in the order of generation and corruption, while being superior to the heavens. He did not have to dissociate the end and the term of the operation in order to satisfy the conditions required in determining the end.

To bring out the greater probability of his own position St. Thomas points to three difficulties with the position of the philosophers. The first is closely connected with what we have just seen about dissociating the end from what is actually caused, that is, the term or the effect. St. Thomas's approach is somewhat abstruse, but he shows that it is one and the same thing to speak of the end of a motion either as assimilation to God in causing (*in causando*) or simply as causing (*causare*). But, he says, causing itself cannot be an end, since it is an activity with a result and it tends to something other than itself : "causare autem non potest esse finis, cum sit operatio habens operatum et tendens in aliud."³ He refers to Aristotle himself to show that such doings (*factiones*) cannot be the end of an agent, because the perfection intended is not in the maker

1. *De Pot.*, q.5, a.5, c.

2. *Cont. Gent.*, III, c.22, n.2028a.

3. *De Pot.*, q.5, a.5, c.

or the making but rather in the thing made. This leaves the philosophers in a rather embarrassing posture, for their position seems to be subordinating the superior to an inferior end, the heavens to the things generated here below.

The second point takes the tack of instrumentality. The heavens are in effect instruments of their intelligent mover, as everyone agreed. The philosophers had proposed an end to be realized in the heavens themselves, but this does not go with their nature as instruments. "In actione autem quae est per instrumentum, non potest esse finis aliquis in ipso instrumento nisi per accidens, in quantum instrumentum accipitur ut artificiatum et non ut instrumentum; unde non est probabile quod finis motus caeli sit aliqua perfectio ipsius, sed magis aliquid extra ipsum."¹ An argument found in the *Compendium Theologiae* offers an excellent elaboration of this.

Manifestum est enim quod omne corpus motum ab intellectu est instrumentum ipsius. Finis autem motus instrumenti est forma a principali agente concepta, quae per motum instrumenti in actum reducit. Forma autem divini intellectus, quam per motum caeli complet, est perfectio rerum per viam generationis et corruptionis. Generationis autem et corruptionis ultimus finis est nobilissima forma, quae est anima humana.²

Thus, inasmuch as the heavenly bodies were supposed to be only instruments of a separate intelligence, it was not to them that one had to look for the end intended in their motion but to that which was intended by the intelligence itself, namely, the most noble form in nature, the human soul.

The third point, however, takes us more deeply still into the heart of the question. It takes the preceding points together, as it were, and combines them according to their concrete significance. In so doing, it saves what is good in the position of the philosophers but goes beyond it and completes it. If assimilation to God in causing is the end of the heavenly motions, then this similitude should be considered principally (*praecipue*) where the causation of God himself is exercised more immediately, that is, in the causation or the creation of a rational soul. In this causation the heavens only concur, along with the human parents, to be sure, by disposing matter through their motion, but this concurring is the closest assimilation to God *in causando* which they can exercise. To say that a certain number of elect, then, is the end of the heavenly motions, as St. Thomas does, makes much more of the idea of assimilation to God through causing than what the philosophers said, since they spoke only generally of

1. *De Pot.*, q.5, a.5, c.

2. *Comp. Theol.*, c.171, n.338.

causing generation and corruption.¹ The generation of a human being is in fact the highest type of causation found in the order of nature, the closest cooperation with God in producing anything, as well as the highest assimilation to his act of creation. At the end of the *Contra Gentiles* St. Thomas makes the point very succinctly. "Motus igitur praecipue est propter hominem: in hoc enim maxime divinam similitudinem consequitur in causando, quia forma hominis, scilicet anima rationalis, immediate creatur a Deo."²

With the *praecipue* in this text and in the one we paraphrased just before, St. Thomas seems to be suggesting that, if you push the position of the philosophers far enough and consider it in connection with the concrete order of generation, and especially with man at the summit of this order, you will see that it has to give way to the second position, even though the first position, that of the philosophers, is not without its own probability. Or more exactly, you will see that the second position, that of St. Thomas, fills in the gap still to be found in the first. Unlike many Thomists of our day, who insist always on what seems to have set St. Thomas off from the Philosopher, often to the point of ignoring certain things which St. Thomas really thought, because they happen to be the same as what Aristotle thought, St. Thomas himself was much more given to bringing out the continuity between himself and the Philosopher, saying what he had to say, even in theology, very often in the terms of the Philosopher. We see that most clearly here in *De Potentia*, q. 5, a. 5, where he is explicitly concerned with presenting a position which differs from that of the philosophers and does so by pushing philosophy itself one step further.

Undoubtedly, St. Thomas was influenced by Christian revelation in arriving at his position. But we shall not try to sort out influences here. What we wish to note is that St. Thomas thought of his position as more probable even from a philosophical standpoint. In theology he took it to be certain. But it is the rational aspect of his position that he insists upon in discussing with the philosophers. And this greater rationality which he tried to bring out centers about the nobility of the human person.

Perhaps St. Thomas saw more in Aristotle than was there *de facto*, as many seem to think today, but perhaps also his genius lay more in being able to see what was there somehow or other, either explicitly or implicitly, and in being able to bring it out in more rational fashion. In

1. "Si similitudo ad Deum in causando est finis motus caeli, praecipue attenditur haec similitudo secundum causalitatem eius quod a Deo immediate causatur, scilicet animae rationalis, ad cuius causalitatem concurret caelum et per motum suum materiam disponendo. Et ideo probabilius est quod finis motus caeli sit numerus electorum quam assimilatio ad Deum in causalitate generationis et corruptionis, secundum quod philosophi ponunt" (*De Pot.*, q.5, a.5, c).

2. *Cont. Gent.*, IV, c.97, n.4287b.

this way, he was not only protecting the Faith against the attacks of reason, but also meeting the greater exigencies of reason itself by bringing out what seemed more reasonable — *rationabilior*. St. Thomas did, in fact, adopt Aristotle's system of the physical universe, but he made it more reasonable by centering it on man, both as summit and as final end, something which Aristotle had not seen as clearly.

VI. AN END AND A BEGINNING IN TIME

It is precisely this new insistence on the place of man in the cosmos that led to thinking of an end in time as more reasonable than the supposition of an unending cyclical motion. The end of the natural process, as St. Thomas understood it, is not just the multiplication of human beings, something that might conceivably go on indefinitely, but only of a certain number of them — *certus numerus electorum*. Once this number is reached there will be no more reason for the process of generation going on. Thus, there will be no more reason for the motion of the heavens, as this was conceived by St. Thomas and the Philosopher. No one on earth knows the number of the elect, but the point of Article 5 in *De Potentia*, question 5, had been to show that the idea of a determinate number of men seemed more reasonable and that it implied an end to cosmic motion and process.

An end to time and the present state of the world, in the ancient perspective, would have had to be conceived in terms of a state of repose for the heavenly bodies as for the earthly elements. "Si motus caeli non esset propter aliquid aliud tunc oporteret attendere proportionem eius ad quietem sequentem, si non sempiternus poneretur."¹ But unlike the elements, whose natural motion was linear and hence tending to one determinate place, the heavenly bodies had no natural place of rest. There was no determinate place for the circular motion of the heavens to tend to, and for this reason, the assumption of sempiternity seemed inevitable in this perspective. Furthermore it seemed that, if the motion were to stop, the heavens would cease being causes and thus cease being like God in causing, which was the supposed end of the motion in the first place. By subordinating the heavenly motion to the multiplication of men, however, St. Thomas broke out of this eternal cycle. "Sed quia est ordinatus ad alium finem; eius proportio attenditur in ordine ad finem, et non in ordine ad quietem sequentem."² The heavenly motion thus became like all other natural motions and operations, ordered along with the movements of the elements, the compounds,

1. *De Pot.*, q.5, a.5, ad 13.

2. *Ibid.*

the plants, and the animals to the disposing of matter for receiving rational souls. God created the essential parts of the universe himself, but for its ultimate perfection he ordered the various movements of the things he created. "Ad ultiman vero perfectionem, quae erit ex consummatione ordinis beatorum, ordinavit diversos motus et operationes creaturarum : quosdam quidem naturales, sicut motum caeli et operationes elementorum, per quas materia prae-paratur ad susceptionem animae rationalis ; quosdam vero voluntarios . . ." ¹ The text goes on to cite the example of Guardian Angels in the order of salvation. We could think as well of human activity as a part of this order.

Once again, to be sure, the idea of an order of the blessed is from Christian theology, but for St. Thomas it also had something to recommend it in philosophy over the position of the philosophers. In the latter there was something rather paradoxical about the final end of the heavenly motions, though St. Thomas admitted its having some probability from a philosophical standpoint. It was a final end which, at least under the aspect of duration, had no end. But it was not inconsistent with the cosmological system in which it was found. With St. Thomas's transformation of that system, however, the paradox could and had to disappear. Once the purpose of the whole cosmological process focusses on man, the idea of a process going on indefinitely producing men *ad infinitum* seems less plausible. This is clearly an end which cannot be reached through motion, one of the three conditions to be satisfied in determining the end of the heavenly motions. "Qui ponit infinitum in causa finali destruit finem et naturam boni. Pertingere enim quod infinitum est, impossibile est. Nihil autem movetur ad id quod impossibile est ipsum consequi." ² So it is that the greater prominence given to man in cosmology led St. Thomas to affirm an end in time as something more probable and more reasonable even from the standpoint of philosophy.

Could not the same argument have been used to show that a beginning in time for the cosmos would also be more probable and more reasonable? St. Thomas never did as much, but let us explore its possibilities for a moment. We could argue that a process *ab infinito*, without a beginning in time, would be no less irrational than one *ad infinitum*, without an end, for it would have to be supposed as also producing men *ad infinitum*. But let us note that we do not have to do with precisely the same thing with regard to the beginning as we do with regard to the end. The end of time will not mark the annihilation of the universe ; it will continue to subsist after the end, along with its essential parts. ³ What of the universe before the

1. *De Pot.*, q.5, a.5, ad 13.

2. *Ibid.*, c.

3. Cf. *Ibid.*, a.4, 7-10.

beginning of time, before the beginning of motion and the process of generation? Could we not say that it also subsisted then, without being in its present state of generation and corruption?

This is not impossible in itself, but it does seem to divorce action from being, something which St. Thomas was always most reluctant to admit. Such a position would imply that the things of the universe were *ab aeterno* without having their proper activity, and so it would be reducible to the ancient occasionalism that St. Thomas rejected so vigorously and so consistently. In fact, such a position would imply that, before the beginning in time, things did not constitute a universe at all. For St. Thomas things exist in order to act, they have the power to do so, each according to its nature, and the exercise of this power by the different beings is what constitutes the order of the universe in its fullest sense.

Si autem rebus subtrahantur actiones, subtrahitur ordo rerum ad invicem : rerum enim quae sunt diversae secundum suas naturas, non est colligatio in ordinis unitatem nisi per hoc quod quaedam agunt et quaedam patiuntur. Inconveniens igitur est dicere quod res non habeant proprias actiones.¹

It would be 'inconvenient' to say that of things as they are now, and it would be no less 'inconvenient' to speak of things as being in a state of immobility *ab infinito*.²

Thus, it would seem, we have an argument showing that it is more reasonable to suppose a beginning of the universe in time, for the *inconvenientia* of which St. Thomas speaks in the text just quoted is not something to be minimized. It pertains to the greater reasonableness of which we spoke earlier, that based on the concrete order of generation. All it gives us is a greater probability, not a demonstration in the strictest sense of the term, for as St. Thomas writes in the *De Aeternitate Mundi*, it has not been demonstrated that God could not create an infinite number of beings. "Adhuc non est demonstratum, quod Deus non possit facere ut sint infinita actu."³ Thus, in the abstract, we could still suppose, as the Philosopher did, that the world

1. *Cont. Gent.*, III, c.69, n.2447.

2. Note that in its final state, as St. Thomas understood it, though the heavenly motion was supposed to come to a halt, the cosmos would not be without its activity. This activity would center about the body of man which will have then, as now, its own principle of activity within itself, a principle that is independent of the heavenly or cosmic influence. "Et hoc poterit esse sufficiens principium motus, motu caeli cessante, cum a motu caeli non dependeat" (*De Pot.*, q.5, a.10, c.). St. Thomas recalls this in commenting Book VIII of the *Physics*. "Ponimus autem secundum fidem nostram, substantiam mundi sic quandoque incepisse, quod tamen nunquam desinat esse. Ponimus etiam quod aliqui motus semper erunt, praesertim in hominibus, qui semper remanebunt, incorruptibilem vitam agentes, vel miseram vel beatam" (*In VIII Phys.*, lect.2, n.986(16)).

3. N.310.

has existed from all eternity, even though this might imply an infinity of human souls, just as we could also suppose a world without souls or without men, but in the concrete, when we consider the order of generation, as St. Thomas did, with man at its summit but truly as a part of it, it becomes more reasonable to suppose that it had both a beginning and an end in time.

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